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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/939,844	09/29/97	RAMANATHAN	K NREL97-10

KEN RICHARDSON  
NATIONAL RENEWABLE ENERGY LABORATORY  
ASSISTANT CHIEF PATENT COUNSEL  
1617 COLE BLVD  
GOLDEN CO 80401

IM51/1214

EXAMINER  
CHAPMAN, M

ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 12/14/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

## Office Action Summary

Application No. 08/939,844	Applicant(s) Ramanathan et al.
Examiner Mark A. Chapman	Group Art Unit 1753

Responsive to communication(s) filed on Dec 22, 1997

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

### Disposition of Claims

Claim(s) 1-11 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1-11 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for zinc chloride, does not reasonably provide enablement for any other salts. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. There is no disclosure for other salts and one of ordinary skill in the art would not expect all the possible group II(a,b)-group VII salts to perform as disclosed.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollock (5,474,939) in view of Basol (4,950,615). Pollock teaches a similar method for producing photovoltaic devices. Pollock does not teach using a "dry" zinc chloride annealing step to perform thermal diffusion of the salt. Basol teaches similar photovoltaic device manufacturing methods where an equivalently disclosed salt is thermally diffused for the same purposes and suggests the use of zinc chloride (col. 5-6 and example 2). It would have been obvious to one of ordinary skill in the art to use a "dry" zinc chloride annealing step to perform thermal diffusion of a salt taught by Basol for the same intended use in the method taught by Pollock because of the similarities in methods, utilities, and photovoltaic devices along with the expectation of similar results.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Chapman whose telephone number is (703) 308-4430.



M. Chapman  
Patent Examiner  
Art Unit 1753

mc

December 10, 1998